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OF

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AND

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FOR A

DEEP SOAKING TUB AND SHOWER WITH SIDE ENTRY DOOR

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DEEP SOAKING TUB AND SHOWER WITH SIDE ENTRY DOOR

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention relates generally to bathtubs, and more particularly, to a deep soaking bathtub and shower apparatus with a built-in seat and a removable hinged door.

2. DESCRIPTION OF THE RELATED ART

The related art of interest describes various tubs and/or shower combinations and assemblies with various sliding entry doors, but none discloses the present invention. There is a need for an economical and simplified bathtub, shower and door combination having a seat, armrests and a door seal with a latching/locking handle that can be installed in place of an existing bath. The relevant art will be discussed in the order of perceived relevance to the present invention.

U.S. Patent No. 4,796,312 issued on January 10, to Fred J. Corlew describes a bathtub on wheels having a hinged door in front opposite a seat with a recessed center portion for use as a sitz bath. Two rear removable posts are joined by a horizontal rear curtain rod and support two pivotable side curtain rods. A shower curtain with rings is supported by the curtain rods. A

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floor drain can be closed or opened by a lever below a counter supporting a showerhead with an extendible tube and a water faucet. A lever for controlling water overflow and drain into a pipe and a thermometer are provided adjacent the faucet. The water is supplied to the wheeled bathtub from an external faucet and piped to a chamber below the seat containing a submersible pump operated by an external electric power source. The apparatus is distinguishable for requiring a wheeled bath, a shower curtain, a front, i.e., opposite the bather, hinged door, a self-contained water source tank with a submersible pump, and a thermometer.

U.S. Patent No. 4,953,241 issued on September 4, 1990, to Douglas P. Williams describes a block shaped bathtub with an easy access side door having a specific contoured shape with a single axis hinge and a double axis hinge. A handle on top of the door activates the opening and swiveling of the door inside and in front of the seat. Handgrips are on the left inside sidewall and on the inside surface of the door. Gaskets are provided on either side of the door or the jamb. Plumbing is not disclosed. The tub is made from molded acrylic plastic. The bathtub is distinguishable for requiring a specially hinged and shaped door, and lacking plumbing essentials.

U.S. Patent No. 2,569,825 issued on October 2, 1951, to Howard J. Otis describes a square-shaped bathtub installed in a corner having high walls and a small, hinged door swinging out

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with resilient door stripping in an upper corner that is lockable on the outside. The faucets are arranged in a wall against the bathroom wall opposite the seat. The apparatus is distinguishable for requiring a small, hinged door that swings out.

U.S. Patent No. 3,371,354 issued on March 5, 1968, to Vetra M. Hayslett describes a walk-in square shaped bathtub having a seat and a water tap positioned at the rear end of a horizontal rectangular base. Drains are located on the base outside and inside the tub. A hinged door in front swinging out has sealing and a pair of slots that engage lugs controlled by a linking disc and linkage inside a chamber below the seat to a water float. A control knob or ring by the seat is connected by internal linkage to open or close the tub's drain. The apparatus is distinguishable for requiring a hinged door opening out and a drain opening control.

U.S. Patent No. 3,066,316 issued on December 4, 1962, to Lionel E. Russell describes an elevated rectangular seatless tub mounted on a support base having a recessed area under the automobile-type hinged door with a handle and lock consisting of a slide bolt to engage a pair of angular clips on the bathtub wall. The bathtub has a spigot and hot and cold valves mounted at one end. The door swinging out has a sponge rubber gasket on an edge opposite the hinge. The apparatus is distinguishable for

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lacking any seat and requiring an elevating support base and a hinged door that opens outward.

U.S. Patent No. 3,719,960 issued on March 13, 1973, to Lionel E. Russell describes a rectangular bathtub having two facing seats and an irregularly shaped door on hinges that swings out. The door's opening surface is obliquely formed to widen to the outside. The door has a conforming shape on its sides. A door latch is positioned on the outside surface. The apparatus is distinguishable for requiring an irregularly shaped door that swings out and two opposing seats.

U.S. Patent No. 3,863,275 issued on February 4, 1975, to Thomas Brendgord et al. describes a Fiberglass sit-up bathtub and shower apparatus comprising a waist high height tub having an elevated shower attachment in a corner opposite a hinged door that opens out. The door has an inflatable seal around its periphery inflated by a pump handle and deflated by an adjacent bleed valve on the door top. A supplemental door seal comprising a flexible sheet is added. A slide bolt inside the top portion of the door locks the door when closed. A seat is provided without armrests. The apparatus is distinguishable for requiring an inflatable door seal, a hinged door that opens outward and a slide bolt.

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U.S. Patent No. 4,360,935 issued on November 30, 1982, to John P. Barrett, Sr. describes a deep bathtub with an elevated seat and an entrance door comp

rising a rectangular high walled tub having a horizontally swinging and inwardly opening door supported by link-type hinges from one wall. A pair of handgrips is provided inside on opposite walls. A seat is provided at one end without armrests. The door is hollow and has an intricate linkage system with a hinged partial cap on top of the door. The door apparatus requires a hollow door having a control handle on top and linked internally to a first latch arm and a second control arm linked to another control arm of a bell crank. A seal strip 50 is not shown. The bathtub is distinguishable for requiring a hollow door having internal mechanisms for opening the door.

U.S. Patent No. 746,390 issued on December 8, 1903, to Ida W. Schmidt describes a wheeled bathtub having a hinged and sealed door at one end opposite the enclosed water supply end having a drain and a sloped surface. The apparatus is distinguishable for requiring a wheeled tub having its own water supply.

U.S. Patent No. 228,722 issued on June 15, 1880, to Henry Arnd describes a combination bathtub with a shower connection having an oval cross-section made of sheet metal or wood lined with sheet metal. A watertight inwardly opening hinged door has a locking slide bolt. Hot and cold water taps support a

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sprinkler on a hose that can be attached to a notched vertical rack on one wall. A box for soap is attached to the wall below the faucets. A stool and a footstool are included. A chained stopper is positioned on the floor in one end. The apparatus is distinguishable for requiring a movable stool, a movable footstool and a notched hose holding rack.

U.S. Patent No. 2,456,275 issued on December 14, 1948, to Louise E. Harris describes a substantially rectangular bathtub on a pedestal made from metal sheeting covered with a vitreous enamel coating and having two walls. A hinged door opening outward on one long side has an external latch and keeper. A second inner closure door slides horizontally into the hollow wall. The hot and coldwater valves are located at one end of the tub and have an overflow spout between them. Handles are provided on top of the tub on either side of the door. The apparatus is distinguishable for requiring a main hinged door and a horizontally sliding second door.

U.S. Patent No. 2,570,053 issued on October 2, 1951, to Arthur E. Fowler et al. describes a walk-in bathtub comprising a hinged outwardly opening door on the front side of a built-in conventional bathtub, and having a pivoting locking handle on the bathtub held by a U-shaped handle keeper on the door. The handle is provided with a mechanism that would prevent filling of the tub until the door is closed or preventing opening of the door until all the water has drained off. A control mechanism for the

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drain involving a float is linked to the handle in a wall adjacent the door. The apparatus is distinguishable for requiring a locking door handle actuating the operation of the drain with the mechanism inside the wall of the tub adjacent the door.

U.S. Patent No. 2,977,604 issued on April 4, 1961, to Bertha E. Miller describes an invalid's bathtub comprising a rectangular conventional bathtub having a handrail on its top surface and the floor inclining the tub towards the drain and faucets. An operator drain opener and closure is included. A wide seat on hooks straddles the width of the tub. The door is hinged, latchable and opens outward. The door has a negatively curved surface covered with a gasket to conform to the positively curved surface of the doorjamb. The apparatus is distinguishable for requiring a hinged door with curved edges opening out and a seat straddling the tub width.

U.S. Patent No. 3,423,769 issued on January 28, 1969, to George E. Cowley describes a molded fiberglass bathtub comprising a door having a watertight seal on one-half of the tub and an integral seat portion with runner on the other half, whereby a person can be wheeled on a trolley into the bath. The door is slid down into an opening with grooved sides. The sealing ring in the undercut door frame is inflated by a pump to produce a watertight seal. The bathtub is distinguishable for requiring

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the inflation of the seal in a doorframe for a door that is inserted down into the door opening.

U.S. Patent No. 3,663,971 issued on May 23, 1972, to Andre Bonhote describes a rectangular bathtub having a seat at one end, and a hinged door located inside the doorframe at an opposite end that swings inward. A seal is maintained on the periphery of the door. A drain stopper is provided that is carried on the inside surface of the door and cannot be placed into a drain stopping position unless the door is closed. The apparatus is distinguishable for requiring a hinged door located inside the tub and for a drain plug attachment to the door.

U.S. Patent No. 4,118,810 issued on October 10, 1978, to Preston E. Brickhouse et al. describes a portable wheeled chair tub comprising a raised back wall, a seat, and an inverted L-shaped and hinged door that opens out. A showerhead is provided from below and behind the seat extending from a hose. A whirlpool effect can be provided. The door is provided with numerous external latches on both sides. The apparatus is distinguishable for requiring a portable wheeled chair tub having a hinged door that opens out.

U.S. Patent No. 4,542,545 issued on September 24, 1985, to Richard L. Johnson et al. describes a bathtub having a footwell, a slightly raised larger region and an entrance door that swings in on hinges. The door opening has a ferromagnetic faced door

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stop around the sides and bottom. The door has two magnetic gaskets mounted on a flange on the door. The tub has two levels with the door level being shorter in length. The tub has a base footing at each end to raise the tub off the floor. There is no description of water faucets, but has a drain by the door. The apparatus is distinguishable for requiring a magnetic sealing door.

U.S. Patent No. US 6,473,915 B1 issued on November 5, 2002, to Barry Davis et al. describes a hydrotherapy pool comprising a boat-shaped tub having sealed, removable two side doors and an end door locked by rotatable side doorknobs. The pool can have wheels. A patient's seat is at one end opposite a door has a cleaved configuration and a seat opposite the patient for the orderly. A trapeze like structure having a rope or towel loop can be provided. The apparatus is distinguishable for requiring multiple removable doors and seats.

United Kingdom Patent Application No. GB 2 085 721 A issued on May 6, 1982, to Georges C. Spach et al. describes a bathtub having a seat partially exposed by an adjacent hinged door extending from the floor to open outward away from the patient. The door has locking means located on top of the door. The apparatus is distinguishable for requiring a hinged door that swings out and exposing the seat.

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European Patent Office Application Publication No. EP 0 109 960 A2 published on May 30, 1984, for Lambert Kroll describes a stationary sitting bath comprising a seat having an elevated back at one end, and at one side a folding three-sectioned door folding back adjacent the seat back. The bath water can be collected below the tub. The apparatus is distinguishable for requiring a folding door.

German Patent Application No. DE 36 01 064 A1 published on July 23, 1987, for Peter Florjancic describes a bath cell for a standing patient comprising a hermetically sealable glassed housing equipped with nozzles for underwater massages and the like. There is provided a front glassed half-door, two glassed sidewalls and two bottom access side panels. A showerhead on a tube and a hanging strap aid are provided. The apparatus is distinguishable for requiring a standing shower bath and underwater nozzles.

European Patent Office Application Publication No. EP 0 585 564 A2 published on March 9, 1994, for Frederick A. Kilbourn et al. describes a rectangular bath tub having a tambour door on one side that can be rolled into a bottom compartment. The door has an impervious membrane guided by a door guide assembly. An inflatable seal is provided on the closed door. A seat is provided at one end. The apparatus is distinguishable for requiring a tambour door.

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None of the above inventions and patents, taken either singly or in combination, is seen to describe the instant invention as claimed. Thus, a deep soaking tub and shower apparatus solving the aforementioned problems is desired.

SUMMARY OF THE INVENTION

The present invention is directed to a safer tub and shower combination apparatus that would allow an aged or handicapped user to enter from a side door. The fiberglass or acrylic bathtub has a molded seat with armrests that gives the user a choice of either standing or sitting. The seat will lend support for cleaning feet and legs if standing. The hinged door has a seal that becomes tighter as the tub fills with water. The door has a latching mechanism with a pivoting handle that rotates a locking rod that locks the door in place. The showerhead has a plastic tube located on the wall opposite the door.

Accordingly, it is a principal object of the invention to provide a tub and shower combination apparatus having a door with a unique locking attachment and release mechanism.

It is another object of the invention to provide a tub and shower combination apparatus having a seat with armrests.

It is a further object of the invention to provide a tub and shower combination apparatus having a flexible corded showerhead.

Still another object of the invention is to provide a showerhead, waterspout and water temperature controls on a wall opposite the door.

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Yet another object of the invention is to provide a movable showerhead that can be placed on an adjustable bar on an optional sidewall to enable a stand up shower.

It is an object of the invention to provide improved elements and arrangements thereof for the purposes described which is inexpensive, dependable and fully effective in accomplishing its intended purposes.

These and other objects of the present invention will become readily apparent upon further review of the following specification and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a tub and shower combination apparatus with the hinged door shown detached according to the present invention.

FIG. **2** is a front elevational view of the FIG. **1** apparatus without the door, shower attachment and upper sidewalls.

FIG. **3** is top plan view of the apparatus without the door and upper sidewalls.

FIG. **4** is a front perspective view of the door.

FIG. **5** is a rear perspective view of the door.

FIG. **6** is a top plan view of the closed door.

FIG. **7** is a front perspective view of a lift-off door hinge depicting male and female parts.

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Similar reference characters denote corresponding features consistently throughout the attached drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention in FIGS. **1** through **7** is directed to a safer tub and shower combination apparatus **10** for aged or handicapped bathers to use by entering a hinged sealable side door **12**. FIG. **1** illustrates the bathtub **14** having a front sidewall **16**, a right sidewall **18**, a left sidewall **20**, and a rear sidewall **22**. The bathtub **14** has a width of 30 inches to enable installation in a home having 30-inch wide interior doorways. The bathtub **14** is intended to be installed or framed in replacing an existing bathtub or shower. A nailing flange **96** is provided along the tub ledge **44** above the tub walls **16**, **20** and **22** to ensure a watertight seam between tub walls and extended rear sidewall **30** and extended right sidewall **32**. It should be noted that the front extended sidewall extending up from the tub ledge **44** is not shown for reasons of clarity of the bathtub **14**.

A showerhead **24** having a flexible hose connection **26** may be placed in a holder **100** positioned at any location that is most convenient for a bather on the extended rear sidewall **30**. A vertical height adjustable showerhead holder **101** having an adjustable slidebar **28** may be placed on the extended right sidewall **32** proximate the rear sidewall **30**.

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By placing the showerhead **24** on the adjustable slidebar **28**, the bather may choose to stand in the 20-inch by 23-inch tub well or floor **40** to shower facing the seat **36**. The seat **36** would lend support for a foot to enable the cleaning of feet and legs, thus eliminating the need to bend down from a standing position or to balance on one foot to wash them. A conventional shower curtain on a horizontal rod (not shown) would confine the water spray to the tub area. Handrails (not shown) may be installed on the extended rear sidewall **30** and on an extended front sidewall (not shown) as desired by the bather. A combination hot and cold water valve **34** and spigot **102** are located on extended rear sidewall **30**.

The contoured seat **36** is located approximately midway up the rear sidewall **22**, and has a pair of curvilinear armrests **38** (one hidden) at approximately elbow height while seated. The seat **36** is approximately 15 inches high, 20 inches wide and 15 inches deep. The floor **40** has a drain (and stopper) **42** connected to an installed sewage line (hidden), and an overflow/drain stopper control fixture **94** and a drainpipe to be installed. The bathtub **14** has a horizontal planar ledge **44** that extends around the bathtub and will be level with the ledge **46** on the door **12**.

Thus, the tub and shower apparatus **10** can be multi-functional in being utilized by the bather as a stand-up shower, as well as a tub **14** to fill and bathe in or to take a seated

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hand-held shower. The armrests **38** are important in assisting the bather to stand when leaving the tub **14**. Occupational therapists always recommend chairs with armrests for their clients. Additional grab bars (not shown) can be attached to an optional front wall (not shown) or rear sidewall **30** as desired. The floor **40**, seat **36** and armrests **38** have a non-skid surface, i.e., dimpled.

The door **12** illustrated in FIGS. **1** and **4** to **6** overlaps the doorway or doorframe **48** by 1.25 inches and swings inward on three lift-off hinges **78** (FIG. **7**) located on the interior wall of the doorframe **48** and door **12**. The door **54** has rounded bottom corners **50** (FIG. **4**) to allow more foot space when the door **12** is being opened or closed. The threshold **52** shown in FIGS. **1** and **2** is approximately 4 inches in height.

The external door locking mechanism **54** in FIGS. **4** and **5** comprises a vertical lock rod **56** having three locking dogs **58** spaced equidistantly. Each locking dog **58** has an adjusting screw **92** to tighten the locking dog to the vertical lock rod **56**. A horizontal brace **60** having an aperture **62** confines the vertical lock rod **56** to the door **12**, but frictionally allows the lock rod to rotate. A handle rod **64** having a footrest stud **66** at its distal end pivots on a pivot pin **68** in the slot **70** on the top end of the lock rod **56**. The door **12** is locked by rotating the lock

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rod **56** until the stud **66** seats in the hole **98** in the ledge **46** of the door **12**. The lock rod **56** rotates the dogs **58** for catching or abutting with their hook portions **59** the front side of a vertical aluminum strip **72** positioned medially on the inside face **74** of the right wall **18** (FIG. **6**). This abutment compresses the pliable sealing strip **76** which is adhered to the exterior side and proximate the side edges and the bottom of the door **12** to press against the interior surface of the right sidewall **18** of the tub **14** to form a fully effective seal preventing water in the tub **14** from leaking out after the door **12** is closed. As the tub **14** fills, water exerts more pressure against the door **12** to create an even tighter seal. After the tub **14** has drained fully, the door **12** is opened by lifting the handle **64** until the peg **66** is free of hole **98**, and then rotating the vertical lock rod **56** to release the locking dogs **58**.

FIG. **7** illustrates the lift-off hinge **78** for the door **12**. The male hinge portion **80** has a planar L-shaped flange portion **82** with two apertures **84** for installing with fasteners and a cylindrical stud **86**. The female hinge portion **88** has a tubular portion or socket **90** for frictionally receiving the stud **86** and a similar flange portion **82** with two apertures **84**. The male portion **80** of each hinge **88** is affixed equidistantly apart to the

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interior surface of the doorway **48** of the tub **14** and adjacent the front sidewall **16**. The female portion **88** of hinge **78** is affixed to the interior edge opposing the locking mechanism **54** of door **12** so that it will align with the male portion **80** on the tub **14** to form the complete hinge **78** (FIG. 7). After the water in bathtub **14** has been emptied, and the locking mechanism **54** has been released, the door **12** swings inward allowing the bather to exit, or can be readily removed in emergency situations by lifting it off the male hinge portion **80** to allow access to the bather, e.g., who has fallen to the floor **40**.

Thus, it has been shown that a bathtub and shower apparatus for disabled persons can have a leak-proof door that is hinged to facilitate entry and exit, or can be readily removed to facilitate access into the tub in emergency situations.

The safer tub and shower combination apparatus is designed to be used as a stand-up shower as well as a tub to fill for bathing or to take a seated hand-held shower. A bather can stand in the tub well to shower facing the seat. The seat would then lend support for cleaning feet and legs, thus eliminating the need to bend down or to balance on one foot to wash.

Most homes and apartments are equipped with conventional baths and showers that are often unusable or dangerous for the elderly and infirm persons. Many users risk falling as they step over the high rim of a bathtub, and must cope with an awkward and potentially tippy bath bench, or have to rely on bathing aid

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personnel requiring high hourly rates, or surrender to assisted living complexes. The safer tub and shower combination apparatus is designed to allow these elderly and infirm people to maintain their independence in their own homes. It should be noted that other people not elderly or infirm can benefit from this apparatus.

It is to be understood that the present invention is not limited to the embodiment described above, but encompasses any and all embodiments within the scope of the following claims.

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